

PROCEEDINGS OF LEARNED SOCIETIES.

GEOLOGICAL SOCIETY.

May 4th, 1898.—W. Whitaker, B.A., F.R.S.,
President, in the Chair.

The following communication was read:—

‘The Graptolite-Fauna of the Skiddaw Slates.’
By Miss G. L. Elles.

This paper deals, not only with the collections of the Author, but with the Dover Collection and others preserved in the Woodwardian Museum, with the collections of Prof. H. A. Nicholson, Mr. Postlethwaite, and that of the Keswick Museum of Natural History. An account of the literature, both stratigraphical and palæontological, of the Skiddaw Slates is given, followed by a list of all the graptolites known from the beds. This list comprises 22 genera and 59 species.

In the ensuing description all the known genera and species are noted, and corrections and additions made to existing knowledge concerning the diagnosis, structure, and development of many of them.

The following 7 species, new to this country,—*Bryograptus ramosus* (Brög.), *Clonograptus tenellus* (Linn.), *Trochograptus diffusus* (Holm), *Pterograptus* (Holm) sp., *Didymograptus gracilis* (Tqt.), *Azygograptus suecicus* (Mbg.), *Diplograptus appendiculatus* (Törnq. MS.),—and 10 new species and varieties are described.

A table showing the distribution of the Skiddaw graptolites in the Arenig rocks of Great Britain, in the *Phyllograptus*-Skiffer, etc., of Sweden, and the Quebec Group of Canada is given, and the accompanying (contracted) table (p. 428) expresses the relationships of the divisions of the Skiddaw Slates with the rocks of these areas.

In conclusion the Author is struck with the remarkable resemblances existing between the species of various genera; these can be so easily explained by supposing that the forms in question are the results of development along certain lines, that she offers the suggestion that this is their real origin. In dealing with the phylogeny she divides these graptolites into two groups:—

- (1) Those derived from a *Bryograptus*-form.
- (2) “ “ *Clonograptus*-form.

To the first group belong 15 named graptolites from the Skiddaw Slates and 4 species from other localities; and to the second 12 Skiddaw species and 2 others.

<p>Lake District.</p> <p>(Borrowdale Volcanic Series.)</p> <p>Upper Skiddaw Slates.</p> <p>(a) Millburn Beds.</p> <p>(b) Ellergill Beds, with <i>Diplograptus</i>.</p>	<p>S. Wales.</p> <p>? Llandello.</p> <p>Llanvirn.</p>	<p>S. Scotland.</p> <p>? Lower parts of Barr Series.</p>	<p>Canada.</p>	<p>Sweden (Scania), after Tullberg.</p>
<p>(a) Upper <i>Tetragraptus</i>-beds.</p> <p>(b) <i>Dichograptus</i>-beds.</p> <p>(c) Lower <i>Tetragraptus</i>-beds.</p> <p>Lower Skiddaw Slates.</p> <p>(a) <i>Bryograptus</i>-beds.</p> <p>(b) ?</p>	<p>Upper Arenig.</p> <p>Middle Arenig.</p> <p>Lower Arenig.</p> <p>Tremadoc.</p> <p>? <i>Lingula</i>-flags.</p>	<p>Bennane Shales.</p>	<p>Quebec Group.</p>	<p>Lower part of <i>Dicellograptus</i>-Skiffen.</p> <p>Higher Zones of <i>Dicellograptus</i>-shales.</p> <p>Zone (n) <i>Glossograptus</i>.</p> <p>" (o) <i>D. gemmus</i>.</p> <p><i>Phyllograptus</i>-Zkiffen. [(Hall). Zone of <i>Phyllograptus</i>, cf. <i>typus</i>, <i>Orthoceras</i>-limestone. <i>Tetragraptus</i>-beds.</p> <p><i>Ceratopogy</i>-beds.</p>